

## 상악동에서 철조법의 임상적 이용에 관한 연구

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= Abstract =

### Transillumination of Maxillary Sinuses : A Clinical Re-evaluation

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**Background :** Transillumination of maxillary sinuses was an important method before the invention of X-rays. But as the more precise and valuable methods have been developed, its importance has been reduced in clinical practice.

**Objectives :** To elucidate the validity of the transillumination in diagnosing the maxillary sinus diseases, the transillumination method was compared with the conventional PNS series.

**Materials and Method :** We performed transillumination tests in 100 adults (48 males and 52 females). A fiberoptic cable with halogen light source was enough for the examination. The light detected in the face of examinee in the dark room was evaluated. We studied the clinical reliability of transillumination in representing the status of the maxillary sinus.

**Results :** For bilateral sinusitis group (N = 48), transillumination matched with the conventional PNS series in 64.6% (31/48) of the cases, unilateral sinusitis group (N = 17) in 82.4% (14/17) and normal group (N = 35) in 88.6% (30/35). The overall matched-rate was 75% (75/100).

**Conclusions :** The transillumination is a helpful non-invasive method for clinical evaluation of the maxillary sinus conditions. (*Korean J Otolaryngol* 40 : 7, 1997)

**KEY WORDS :** Transillumination · Maxillary sinus.

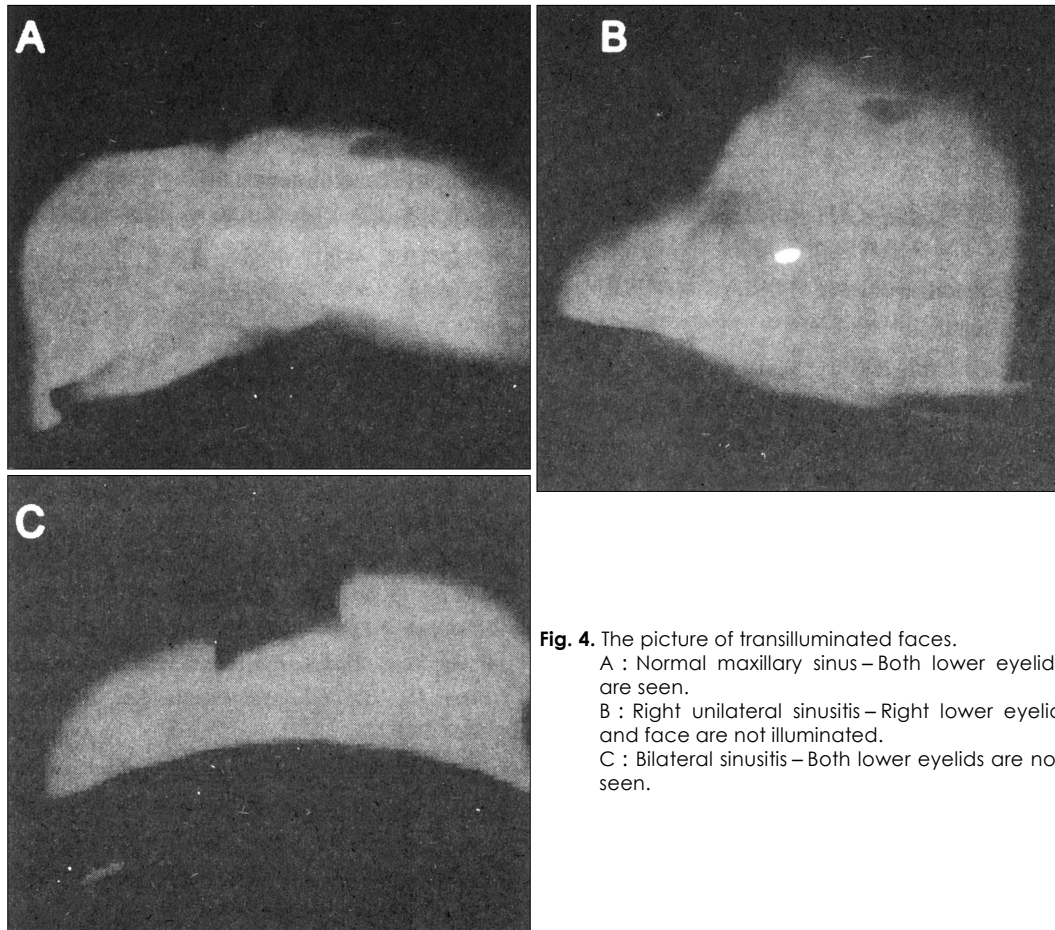
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(Transillumination)

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**Fig. 4.** The picture of transilluminated faces.  
 A : Normal maxillary sinus – Both lower eyelids are seen.  
 B : Right unilateral sinusitis – Right lower eyelid and face are not illuminated.  
 C : Bilateral sinusitis – Both lower eyelids are not seen.

**Table 2.** Distribution of maxillary sinus disease by conventional X-rays

	Male	Female	Total(%)
Bilateral sinusitis	20	28	48 ( 48.0)
Unilateral sinusitis	10	7	17 ( 17.0)
Normal	18	17	35 ( 35.0)
Total	48	52	100 (100.0)

**Table 3.** Results of transillumination of maxillary antrum matched with X-rays

X-ray findings	Transillumination		Matched rate
	matched	mismatched	
Bilateral sinusitis (N = 48)	31	17	64.6%
Unilateral sinusitis (N = 17)	14	3	82.4%
Normal (N = 35)	30	5	88.6%
Total	75	25	75.0%

68%

8)

가 62.5%

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42%,

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 , 9%  
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 , Dra<sup>9)</sup>  
 36% 22%  
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35% 9%

linuma <sup>11)</sup>

78.4%, 71.1%, 52.6%

가

12)

8

OMU -

CT 53%

결 론

(Transillumination)

1977

Mann <sup>13)</sup>

, Revonta Kuuliala <sup>14)</sup>

view 가 91%

76%

, Evans <sup>15)</sup> Wald <sup>16)</sup>

Kierzek <sup>17)</sup>

Heryng

가

가

가

가

가

가

80%

65%

## References

- 1) Shiraiwa T, Yamamoto K : *Clinical examination in otorhinolaryngology*. 1st Ed., Tokyo, Igaku Shoin, 1965 : 330-331
- 2) Paik MK : *Sinusitis in New Otolaryngology*(신 이비인후과학), 1st Ed., Seoul, Il Jo Gak, 1969 : 250
- 3) Ballenger JJ : *Paranasal sinus infections*. In *Disease of the Nose, Throat, Ear, Head and Neck* (ed. Ballenger JJ), 13th Ed., Philadelphia, Lea & Febiger, 1985 : 214-215
- 4) Alyea OE van : *Nasal sinuses - An anatomic and clinical consideration*, Baltimore, The Williams & Wilkins, 1942 : 36-37
- 5) Mackay I, Cole P : *Rhinitis, sinusitis and associated chest disease*. In *Scott-Brown's Otolaryngology* (ed. Kerr AG) 5th Ed., London, Butterworth, Vol. 4, p76, 1987
- 6) Ballatyne JC, Lowe AR : *Some points in the pathology, diagnosis and treatment of chronic maxillary sinusitis*. *J Laryngol Otol*. 1949 ; 63 : 337-341
- 7) McNeill RA : *Comparison of the findings on transillumination, X-ray and lavage of the maxillary sinus*. *J Laryngol Otol*. 1963 ; 77 : 1009-1013
- 8) Ilum P, Jeppsen F, Langebaek E : *X-ray examination and sinoscopy in maxillary sinus disease*. *Acta Otolaryngol (Stockh)*. 1972 ; 74 : 287-292
- 9) Draf W : *Endoscopy of the paranasal sinuses*,

- Berlin, Springer-Verlag, pp1-2, 1983
- 10) Pfleiderer AG, Croft CB, Lloyd GAS : *Antroscopy : its place in clinical practice. A comparison of antroscopic findings with radiographic appearances of the maxillary sinus. Clin Otolaryngol. 1986 ; 11 : 455-461*
  - 11) Iinuma T, Hirota Y, Kase Y : *Radio-opacity of the paranasal sinuses. Conventional views and CT. Rhinology. 1994 ; 32 : 134-136*
  - 12) Huh HB, Suh KS, Kim JY, Huh CH : *Comparison of the PNS series and the OMU-CT in chronic paranasal sinusitis Kor J Otolaryngol Head Neck Surg. 1996 ; 39 : 1767-1772*
  - 13) Mann W, Beck C, Apostolidis T : *Liability of ultrasound in maxillary sinus disease. Arch Otorhinolaryngol. 1977 ; 212 : 67-74*
  - 14) Revonta M, Kuuliala I : *The diagnosis and follow-up of pediatric sinusitis : Water's view radiography versus ultrasonography. Laryngoscope. 99 : 321-324*
  - 15) Evans FO, Snyder B, Moore WEC : *Sinusitis of the maxillary antrum. N Engl J Med. 1975 ; 293 : 735-739*
  - 16) Wald ER : *Sinusitis in children. Isr J Med Sci. 1994 ; 30 : 403-307*
  - 17) Kierzek A : *Diaphanoscopy (transillumination) of maxillary sinuses : a method too early forgotten?. Otolaryngologia Polska. 1995 ; 49 : 371-379*